

Safety Report

Bob Casey

ASSOCIATE CHAIR FOR ESH

Organization and Mission

Environmental, Safety, and Health (ESH) performance within the NSLS and at BNL in general remains an important issue for all NSLS staff, PRT members, and general users.

2004 Activities

There is a great emphasis at Brookhaven Lab on reducing the frequency of injuries and incidents, and this emphasis resulted in heightened visibility for all matters relating to safety during 2004. So how are we doing at the NSLS?

In many factors we are doing very well.

1. We had no injuries that met recording criteria or resulted in lost or restricted time during 2004. BNL and DOE weight this parameter heavily in judging safety performance — we can all take pride in that accomplishment.
2. Radiation exposure remains very low. The total recorded committed dose equivalent to NSLS staff and users for 2004 was less than 50 mRem. Fewer than 10 badges for the year had any recordable exposure.
3. Generation of hazardous and industrial wastes continues near all-time lows. Inspections of work sites indicate a high degree of compliance with hazardous waste and environmental requirements.
4. Responsiveness to inspection and audit findings was prompt and complete in general.
5. Compliance with safety and training requirements as evidenced through numerous audits is viewed as high.

These factors indicate a very satisfactory program. However, this year two events involving electrical safety raised concerns about that part of our program and have resulted in a considerable emphasis on improving electrical safety practices. For example, two significant incidents occurred this year: An NSLS technician received a high-voltage shock while working on a component at a beamline, and visiting researchers improperly modified a high-voltage power supply, leaving a shock hazard for subsequent groups. Detailed information on these incidents is available on the NSLS website.

Following Up with Concerns

In 2004, a key issue that emerged is ensuring that all electrical devices requiring lockout prior to maintenance or servicing have been identified. A major effort has been devoted to establishing this inventory and clearly labeling these devices. A second major effort has been on analyzing the adequacy of our work planning to ensure that hazards are identified and controlled prior to the start of work. Both of these efforts will continue to be a major focus in 2005.



Key Work-Planning Points for Electrical Safety for 2005

- Make sure that all work on electrical components is adequately screened for hazards by the supervisor or other knowledgeable person before the work begins — make no assumptions. If you are not knowledgeable of the equipment and its potential hazards, find someone who is.
- All work involving exposed electrically energized surfaces, including troubleshooting measurements, must be planned and conducted in accordance with NSLS work planning requirements. In general, working with exposed energized circuits is not allowed unless explicitly authorized by the NSLS Electrical Safety Officer and the supervisor through a “working hot” permit.

NSLS User Training Programs

Eva Rothman

TRAINING COORDINATOR

NSLS user safety training has been available on the web for some time. Now, the vast majority of our users take advantage of this convenience to complete training before arrival. This year saw some further enhancements. The User Safety Module was converted from simple web pages to the format used by the other BNL web courses. During this conversion process, the course was edited page-by-page and pared down by about 30%, resulting in, hopefully, a more concise and memorable presentation. The new format allows the quiz to be automatically graded and the results returned to the trainee immediately. The safety module used for scientific and technical staff was also converted to this format.

The NSLS has discontinued using its own version of GERT, or General Employee Radiological Training, and has adopted the BNL version. Historically, GERT had only been available as a weekly classroom session that was inadequate for a 24-7 facility with around-the-clock arrivals. The NSLS used a videotape presentation of GERT as part of the safety training administered in the User Office and Control Room. Later, we implemented a web version, which, because we wanted to keep it short, was only applicable to the NSLS (not transferable to other BNL departments or other DOE facilities). In early 2004, BNL introduced GERT as a web course and the NSLS is now able to offer that to its users. The NSLS continues to have a reciprocal relationship with other DOE labs regarding GERT and now the GERT training obtained at BNL should be fully accepted by other DOE facilities.

- Unless specifically authorized by the responsible supervisor and the NSLS Electrical Safety Officer under the conditions of a “working hot” permit, all work that involves exposed electrical conductors less than 50 volts must be initiated by securing the electrical power source in accordance with the BNL lock-out/tag-out procedure.
- Proper protective clothing and gloves must be worn by all workers servicing or trouble-shooting electrical equipment until it has been verified that all electrical voltages have been secured and the equipment is in a zero-energy state.

Adherence to these procedures will permit work with electrical components to be safely performed.

Conclusion

The NSLS Safety Program is based on the principles of safety that the U.S. Department of Energy refers to as Integrated Safety Management (ISM). The intent of this program is to ensure that all work is effectively performed by trained and qualified personnel and that hazards associated with the work have been fully identified and properly controlled. These concepts are embodied in the safety program requirements established for all users and staff.

We all take justifiable pride in the world-class research that is performed at the NSLS. We need a sharp focus on working safely and taking steps to ensure that our research programs fully capture the requirements of the NSLS safety program and the essence of ISM. It is clear that world-class research will not proceed without world-class safety.